

CLAIMS

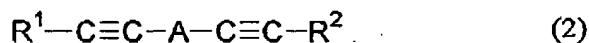
1. A process for producing a carbonyl compound, which comprises reacting an alkyne compound with water in the presence of a gold catalyst which is an organogold complex compound and acid in an organic solvent.

2. The process for producing a carbonyl compound according to claim 1, wherein the alkyne compound is an alkyne compound represented by the following formula (1):



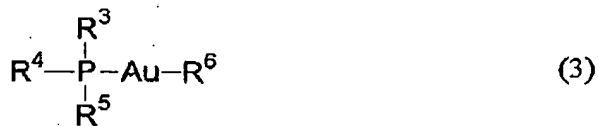
wherein R^1 and R^2 each represents a hydrogen atom, an organic group, an organic oxy group, an organic oxycarbonyl group, an organic carbonyl group, an organic carbonyloxy group, an organic thio group, a silyl group, an organic group-substituted silyl group or a carboxyl group.

3. The process for producing a carbonyl compound according to claim 1, wherein the alkyne compound is an alkyne compound represented by the following formula (2):



wherein A represents a divalent organic group; and R^1 and R^2 each represents a hydrogen atom, an organic group, an organic oxy group, an organic oxycarbonyl group, an organic carbonyl group, an organic carbonyloxy group, an organic thio group, a silyl group, an organic group-substituted silyl group or a carboxyl group.

4. The process according to any one of claims 1 to 3, wherein the gold catalyst is a phosphine-gold complex compound represented by the following formula (3):



wherein R^3 , R^4 and R^5 each represents an organic group or an organic oxy group; and R^6 represents an organic group.

5. The process according to any one of claims 1 to 4, wherein the organic solvent is alcohol.

6. The process according to any one of claims 1 to 5, wherein the reaction is carried out in the presence of a coordination additive.

7. The process according to claim 6, wherein the coordination additive is carbon monoxide.

8. The process according to claim 6, wherein the coordination additive is phosphite, phosphonite or phosphinite.